



Personal Protective Equipment

OSHA 10-Hour Construction Industry Course

Required Online Topic Time: 60m



Learning Objectives



Duration

60 minutes

Terminal Learning Objective

Given current OSHA and industry information regarding worksite illnesses, injuries and/or fatalities, the student will be able to select appropriate personal protective equipment for common industry hazards.

Enabling Learning Objectives

- Recall employer responsibilities toward affected employees regarding PPE.
- Identify when face and head protection should be used.
- Recall which types of hand and foot protection should be used in a specific situation.
- Recognize the differences between respirator types.
- Identify the differences between full-body protection levels.

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Introduction



In order to **StartSafe** and **StaySafe** when it comes to PPE, there are two critical things you must do **before you perform a job:**

- *First, identify the potential hazards*
- *Second, control those hazards*

There are also two ways to **control hazards:**

- *First, try to eliminate or reduce the hazard*
- *Second, if the hazard cannot be eliminated or reduced, then PPE should be worn to protect you from the hazard*



Introduction continued...



PPE is designed to protect you from injuries to your head, face, eyes, ears, hands, feet, respiratory tract, and body.

The simple facts are:

- *Millions of people are injured at work each year.*
- *Many of these injuries could have been prevented, if only the proper PPE had been used.*



Employer Responsibilities



Employers must provide the protective equipment to employees that are **job specific.**

Certain equipment will be designed specifically for auto, cosmetology, culinary, healthcare, manufacturing, etc. but some of the PPE will overlap as well.

Examples of this equipment are:

- Hard hats
- Safety goggles
- Visors
- Gloves
- Masks
- Proper footwear, etc.



Employer Responsibilities continued...



Once an employer has conducted a hazard assessment and selected the appropriate PPE, the employer must provide training to each employee who will use the PPE. That training must at least include:

- *When using the selected PPE is necessary*
- *What PPE is necessary*
- *How to properly put on, take off, adjust, and wear the PPE*
- *The limitations of the PPE*
- *Proper care, maintenance, useful life, and disposal of the PPE*



Employer Responsibilities continued...



Be aware of your surroundings while on the job, and **pay attention** to the hazards **around you**. Be sure to use your personal protective equipment.

Remember to **keep your PPE clean**, in working order, and to use it.

Ask your supervisor what PPE you will need. Also, look for signs posted at the worksite.

Although your job is important, **your safety and well-being are more important**. By **wearing your PPE properly**, you'll be helping to build a safe work foundation.

Employer Responsibilities



Knowledge Key

Your employer is responsible for conducting a hazard assessment at your workplace, selecting and providing the appropriate PPE for the hazard present, making sure the PPE fits you properly and you know how and when to use it, and training you on the limitations of your PPE as well as how to care for and dispose of it.

Eye Protection



You must use **eye protection** to prevent injuries to your eyes from splashes, dust, flying particles, and intense light.

The type of eye protection you use depends on the hazard you will be exposed to.

- Safety Glasses
- Goggles
- Face Shields



Eye Protection



Knowledge Key

You must use eye protection to prevent injuries to your eyes from splashes, dust, flying particles, and intense light. The type of eye protection you use depends on the hazard you will be exposed to.

Ear and Head Protection



Hard Hats:

Class G

- *Falling Objects*
- *Electrical shocks up to 2,200 volts*

Class E

- *Falling Objects*
- *Electrical Shock up to 20,000 volts*

Class C

- *Bumping your head against fixed objects, but do not protect against falling objects*
- *Unlike class G and E, class C hard hats do not protect you from electrical shocks*
- *Class C hard hats are designed for comfort and offer limited protection*

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Ear and Head Protection continued...



Hard Hats:

- Injuries to the head are very serious and can be caused by falling objects, a common cause of head injuries, and bumping into hard objects.
- Hard hats are ***designed to protect your head from injury***. They have rigid shells that resist and deflect blows to the head and they have a suspension system that acts as a shock absorber.
- ***Always wear your hard hat while you are working in areas where there is a potential for head injuries.***
- Adjust the suspension system inside your hard hat so that it sits comfortably, but securely, on your head.



Ear and Head Protection continued...



Foam earplugs provide the most hearing protection.

If the earplugs are **not inserted** into the ear canal correctly, you **are not getting the full benefit of using them**.

PVC earplugs are more comfortable in hot environments.

Earmuffs fit over the outside of the ears. **Earmuffs can be worn in combination** with earplugs for added hearing protection.

Earmuffs should be cleaned regularly and, like all PPE, they should be inspected before use and **discarded if damaged or defective**.

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Ear and Head Protection



Knowledge Key

The type of work you will be doing determines which type of hard hat you should wear. Class C offers the lowest protection, just providing protection from minor bumps. Class E and G provide protection from falling objects as well as varying degrees of protection from electrical shocks, Class G offers protection from up to 2,200 volts while Class E provides protection up to 20,000 volts.

Wearing earplugs or earmuffs correctly can preserve your hearing when you are on a jobsite with high noise levels. The longer you're exposed to noise, the more likely it is that hearing damage will occur. Be sure to select the type of hearing protection that will best protect you based on your work environment.

Hand and Foot Protection



It has been estimated that almost 20% of all disabling accidents on the job involve the hands.

Coming into contact with hazardous chemicals, toxic or biological substances, electrical sources, or extremely cold or hot objects can irritate or burn your hands. Rough surfaces can also scrape or cut your hands.

Gloves protect your hands from a variety of hazards, but it's important that you use the right gloves for the job and that the gloves fit your hands correctly.

- *Vinyl*
- *Anti-vibration*
- *Latex*
- *Heat Resistant*
- *Leather Palm*



Hand and Foot Protection continued...

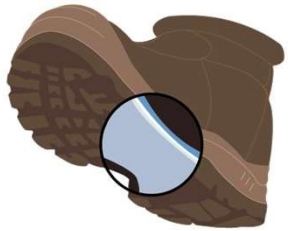


Before you begin work that requires the use of gloves, you should:

- Inspect your gloves by looking for holes and cracks that might allow leaks.
- Replace gloves that are worn or torn.
- Avoid borrowing gloves from other people (gloves are personal protective equipment).
- Never wear gloves around powered rotating equipment.



Hand and Foot Protection continued...



Tennis shoes or any other soft-bodied shoes **shouldn't be worn at most work sites.** They don't protect your feet from injury. Sharp objects like nails, screws, metal scraps, beams, columns, and reinforcing rods can and will puncture the soles and cut through the upper portions of this type of footwear.

Appropriate Types of PPE Foot Protection:

- *Reinforced soles*
- *Metatarsal shoes*
- *Steel toed shoes*
- *Rubber boots*

Hand and Foot Protection



Knowledge Key

Gloves protect your hands from a variety of hazards, but it's important that you use the right gloves for the job and that the gloves fit your hands correctly. Be sure to use your gloves properly and inspect them for any damage to protect your hands from any hazards on your worksite.

You need to protect your feet at your workplace from any hazards that may be present, such as falling objects, sharps, slippery areas, or hazardous liquids. Use the foot protection that best protects you from the hazards you may encounter on a daily basis. Be sure to inspect your foot protection regularly and keep it in good condition.

Respiratory Protection



Respiratory hazards can exist in **various forms** at general industry worksites.

- Gases
- Vapors
- Dusts
- Mists
- Fumes
- Smoke
- Sprays
- Fog
- Metal fumes
- Solvent vapors
- Infectious agents
- Chemical hazards
- Sensitizing vapors
- Oxygen deficiency
- pharmaceuticals

When you and your co-workers cannot be adequately protected from respiratory hazards through use of these methods, then your employer must provide you with an appropriate respirator to protect your health.



Respiratory Protection continued...



Some of the OSHA requirements for a written respiratory protection program include:

- Procedures for selection, use, and maintenance of the equipment.
- Medical evaluations for the user of the respirator.
- Fit testing and training for the user of the respirator.

If you are ever in a situation that requires respiratory protection, you must receive thorough training from your employer before you get started.



Respiratory Protection



Knowledge Key

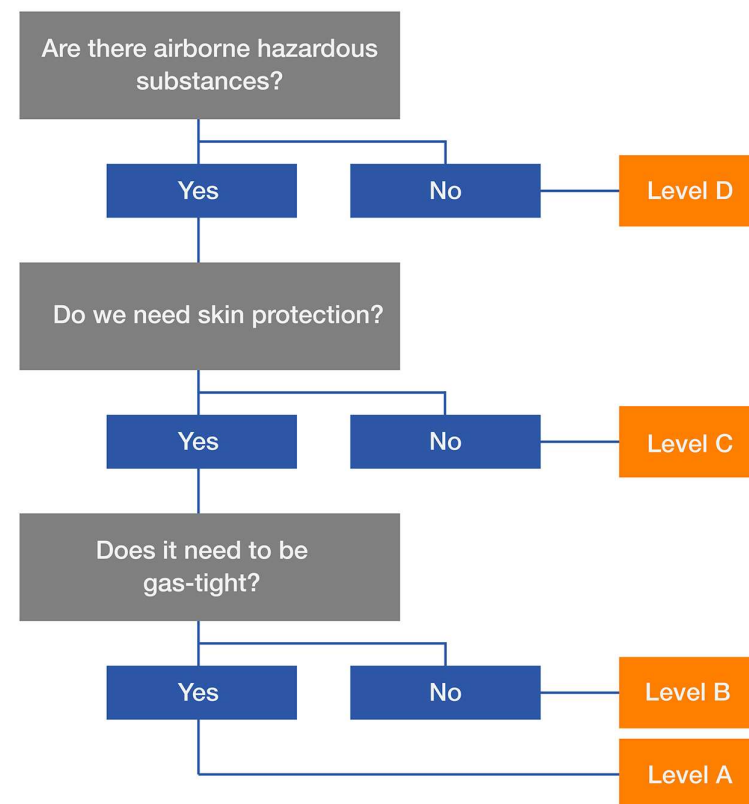
There are two types of respirators: one which filters air and one which supplies clean air. The type you use depends on the work you're doing. Remember that respirator use requires that you have a medical evaluation and additional training.

Full Body Protection



There are many varieties of clothing which protect against different hazards.

- **Level A** full-body protective clothing is gas-tight, chemical-resistant coveralls used with a supplied-air respirator or SCBA. It provides the highest level of protection and is required when the greatest potential for exposure exists and the greatest level of skin, respiratory, and eye protection is required.
- **Level B** full-body protective clothing is chemical-resistant coveralls used with a supplied-air respirator or SCBA. It provides the highest level of respiratory protection and a lesser level of skin protection.
- **Level C** full-body protective clothing is normal work clothes or Tyvek[®] coveralls used with an air-purifying respirator. This level is required when the concentration and type of airborne substances are known and the criteria for using an APR is met.
- **Level D** refers to normal work clothes. Level D protection may be sufficient when no contaminants are present or work operations preclude splashes, immersion, or the potential for unexpected inhalation or contact with hazardous levels of chemicals.



Full Body Protection



Knowledge Key

There are many varieties of clothing which protect against different hazards. It's your employer's responsibility to provide PPE appropriate for the work being done.

Summary



In any work environment, the optimal means of protection is to **remove or eliminate the hazards.**

In some cases, however, this is not possible. It is in these cases that PPE should be worn to reduce your exposure to specific hazards on the job.

Practice Questions



1. When your employer performs an assessment of the area, what are they trying to find?

- a. Hazards
- b. Personal Protective Equipment
- c. Extra tools

3. Which employee is not ready to work at a jobsite with high noise levels?

- a. Maria is wearing earplugs.
- b. Ben isn't wearing any hearing protection.
- c. Marcus is wearing earmuffs.

2. What criteria must your employer-provided PPE meet?

- a. That is stylish and modern
- b. That fits you in order to give the best protection from these hazards.
- c. That is not too expensive.

4. What provides better eye protection than regular glasses because they are stronger and more resistant to impact and heat?

- a. Safety glasses
- b. Prescription glasses
- c. Polarized glasses

Practice Questions



5. You're going to be mowing lawns as a summer job. How long will it take for your hearing to be damaged without hearing protection?

- a. Less than 30 seconds
- b. 1 hour
- c. Less than 4 hours
- d. There is no hearing damage risk

6. True or false: It's important that the gloves you use fit your hands properly.

- a. True
- b. False

7. Josue is starting a job where he won't need a respirator but will still need to protect his legs and arms from splashes or cuts. What level of full-body protection will Josue use?

- a. Level A
- b. Level B
- c. Level C
- d. Level D

8. Josh is about to start working in a low-oxygen environment. Which type of respirator will he need?

- a. Air-purifying respirator (SAR)
- b. Supplied-air respirator (SAR)
- c. Josh doesn't need a respirator

Practice Questions



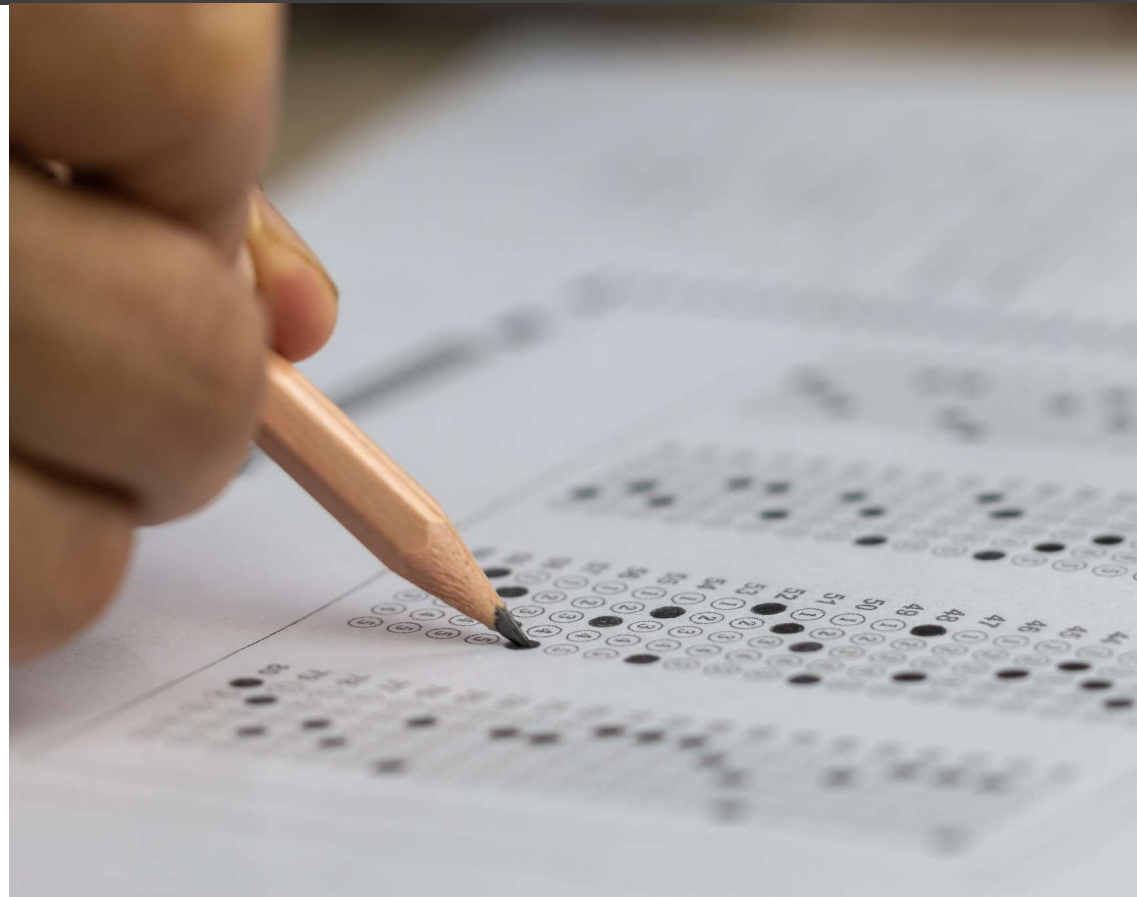
9. Who is wearing foot protection that will protect them from sharps?

- a. Cameron is wearing flip flops.
- b. Ben is wearing loafers.
- c. Maria is wearing boots.

Practice Questions Answer Key



- 1. A
- 2. B
- 3. B
- 4. A
- 5. C
- 6. A
- 7. D
- 8. B
- 9. C



Conclusion



You have completed the Personal Protective Equipment topic.

